

## The PIN/PIN Vowel Merger in Southern Illinois English

The merger of /ɪ/ and /ɛ/ before nasals (which causes a homophony in word pairs like *pen* ~ *pin* or *chem* ~ *Kim*) is one of the most popularly commented on features of Southern US dialects (Bailey 1997, Wolfram & Schilling-Estes 1998, Berrey 1940, Thomas 2001), yet few studies exist of either its range or its phonetic characteristics. Brown (1991) is the most extensive treatment, but this is an historical account.

Acoustically, the effect of nasalization on vowel height is most likely due to the combination of the nasal formant trough with the oral vowel's F1, which causes a vowel's "center of gravity" to shift. Beddor, et. al. (1986), however, show that languages in which nasalized vowels occur only as a reflex of preceding a nasal consonant do not show the interference in perception of vowel height that phonemically nasalized vowels show.

Typically, the account of the pin/pen merger is similar to that in Thomas (2001): /ɛ/, being generally higher in the South, is more susceptible to interference from the nasal formant trough, which then causes it to raise, or be interpreted as raised, to /ɪ/ in pre-nasal contexts. This has not been tested acoustically, however. Also, although [æ] has separately been shown to raise in pre-nasal contexts (Labov 1994), it has not yet been considered within the "classical" pin/pen merger.

Southern Illinois, the site for my research, is, like the merger itself, both linguistically debatable and under studied. It has been historically a cast-off of dialectologists, considering it variously as part of the South Midland (Frazer 1996), North Midland (Davis & Houck 1995), or as part of the Ozark Foothills/Western Appalachians (Dickson 2000). None of these accounts, however, adequately sample Southern Illinois speech; instead, they rely on assumptions and folk ideals concerning the region. This region is an especially important place to consider because it is both as far north as this "southern" feature should reach, and as such the speakers of this region have real exposure to both merged and non-merged varieties.

This work is a move toward filling in these gaps in our understanding. Thirty speakers were sampled from three counties across the 16 counties constituting Southern Illinois. Three tokens of /ɪ/, /ɛ/, and /æ/, in pre-alveolar and pre-labial environments, in two different reading tasks, were collected for each speaker in both pre-nasal and pre-oral stop contexts (2160 tokens total). F1 and F2 values were measured at the vowel steady-state midpoints (or at target points for diphthongs) for each vowel.

What the data show is a dynamic pattern, with predictability of the merger growing increasingly erratic as the age of the speakers decreases. For example, in the older speakers, attention paid to speech does not seem to affect degree of merger for either sex, while in younger speakers women tend to show less merger in situations requiring more speech attention. Also, for the older speakers, only /ɪ/ and /ɛ/ merge, while in the younger speakers, /ɛ/ will merge with either /ɪ/ or /æ/. Whether these processes are a case of age-grading or language change cannot yet be known. However, these results show us that the pen/pin merger in Southern Illinois should be given careful consideration as a site of language variation.